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National Eutrophication Survey, Corvallis, Oreg

Prepared for

Corvallis Environmental Research Lab, Oreg

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NATIONAL EUTROPHICATION SURVEY

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16. ABSTRACT

Annual total phosphorus and total nitrogen loadings to the lake were estimated and subdivided according to either point or non-point source origin. An assessment of the lake's trophic condition and limiting nutrient is also provided. All data collected by the U.S.E.P.A. National Eutrophication Survey during the one year study of the lake and its tributaries are included in the report.

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REPORT

ON

NAVAJO RESERVOIR
ARCHULETA COUNTY, COLORADO,
AND
SAN JUAN AND RIO ARRIBA COUNTIES,
NEW MEXICO

EPA REGIONS VI AND VIII

WORKING PAPER NO. 775

WITH THE COOPERATION OF THE

COLORADO DEPARTMENT OF HEALTH,

THE NEW MEXICO ENVIRONMENTAL IMPROVEMENT AGENCY,

AND THE

COLORADO NATIONAL GUARD

JULY, 1977

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FOREWORD

The National Eutrophication Survey was initiated in 1972 in response to an Administration commitment to investigate the nationwide threat of accelerated eutrophication to freshwater lakes and reservoirs.

OBJECTIVES

The Survey was designed to develop, in conjunction with state environmental agencies, information on nutrient sources, concentrations, and impact on selected freshwater lakes as a basis for formulating comprehensive and coordinated national, regional, and state management practices relating to point-source discharge reduction and non-point source pollution abatement in lake watersheds.

ANALYTIC APPROACH

The mathematical and statistical procedures selected for the Survey's eutrophication analysis are based on related concepts that:

a. A generalized representation or model relating sources, concentrations, and impacts can be constructed.

b. By applying measurements of relevant parameters associated with lake degradation, the generalized model can be transformed into an operational representation of a lake, its drainage basin, and related nutrients.

c. With such a transformation, an assessment of the potential for eutrophication control can be made.

LAKE ANALYSIS

In this report, the first stage of evaluation of lake and watershed data collected from the study lake and its drainage basin is documented. The report is formatted to provide state environmental agencies with specific information for basin planning [§303(e)], water quality criteria/standards review [§303(c)], clean lakes [§314(a,b)], and water quality monitoring [§106 and §305(b)] activities mandated by the Federal Water Pollution Control Act Amendments of 1972.

Beyond the single lake analysis, broader based correlations between nutrient concentrations (and loading) and trophic condition are being made to advance the rationale and data base for refinement of nutrient water quality criteria for the Nation's fresh water lakes. Likewise, multivariate evaluations for the relationships between land use, nutrient export, and trophic condition, by lake class or use, are being developed to assist in the formulation of planning guidelines and policies by EPA and to augment plans implementation by the states.

ACKNOWLEDGEMENT

The staff of the National Eutrophication Survey (Office of Research & Development, U. S. Environmental Protection Agency) expresses sincere appreciation to the Colorado Department of Health and the New Mexico Environmental Improvement Agency for professional involvement, to the Colorado National Guard for conducting the tributary sampling, and to those Colorado wastewater treatment plant operators who voluntarily provided effluent samples.

The staffs of the Colorado Water Quality Control Division and the New Mexico Water Quality Division provided invaluable lake documentation and counsel during the Survey, reviewed the preliminary report, and provided critiques most useful in the preparation of this Working Paper.

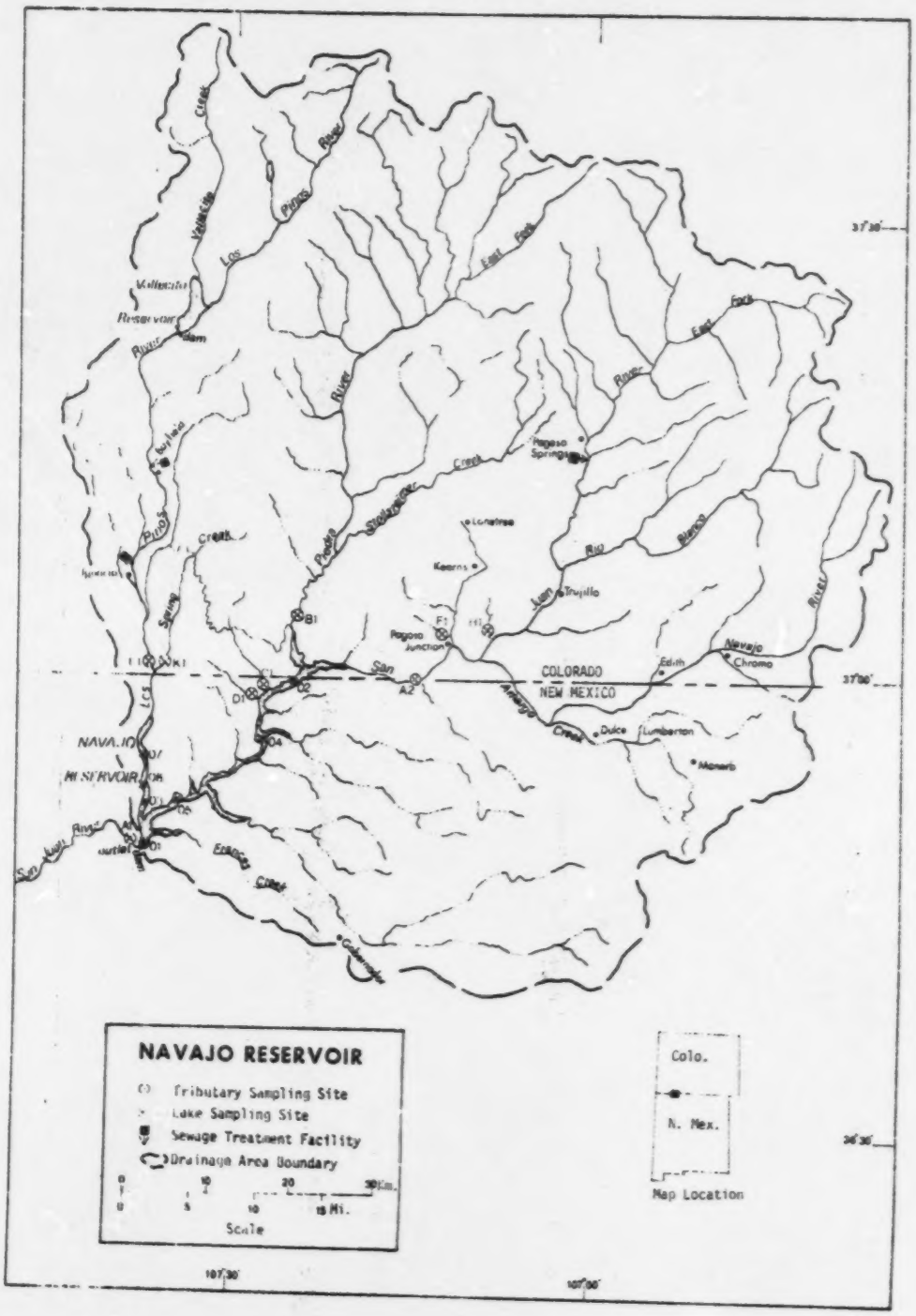
Lt. Colonel Paul A. Parsons, the Deputy Adjutant General of Colorado, and Project Officer Colonel Hershel C. Yeargan, who directed the volunteer efforts of the Colorado National Guardsmen, are also gratefully acknowledged for their assistance to the Survey.

NATIONAL EUTROPHICATION SURVEY

STUDY LAKES AND RESERVOIRS

STATE OF COLORADO

NAME	COUNTY
Barker	Boulder
Barr	Adams
Blue Mesa	Boulder
Cherry Creek	Arapohoe
Cucharas	Huerfano
Dillon	Summit
Grand	Grand
Green Mountain	Summit
Holbrook	Otero
Meredith	Crowley
Milton	Weld
Navajo	Archuleta, CO; San Juan, Rio Arriba, NM
Shadow Mountain	Grand


NAVAJO RESERVOIR
Tributary Sampling Site
Lake Sampling Site
Sewage Treatment Facility
Drainage Area Boundary
Scale
Colo.
N. Mex.
Map Location
COLORADO
NEW MEXICO
Pagosa Springs
Pagosa Junction
Lumberton
Dulce
Navajo
Chromo
Edith
Arboles
Kearns
Trujillo
Monero
37°30'
36°30'
107°30'
107°00'

NAVAJO RESERVOIR

STORET NO. 0812

I. CONCLUSIONS

A. Trophic Condition:

Survey data indicate that Navajo Reservoir is mesoeutrophic. It ranked eighth in overall trophic quality among the 13 Colorado lakes and reservoirs sampled in 1975 when compared using a combination of six parameters*. Six of the water bodies had less median total phosphorus, seven had less median dissolved orthophosphorus, ten had less median inorganic nitrogen, none of the others had less mean chlorophyll a, and seven had greater mean Secchi disc transparency. Some depression of dissolved oxygen with depth occurred at stations 2, 3, and 4 in September.

Survey limnologists did not observe any nuisance concentrations of algae during sampling visits.

B. Rate-Limiting Nutrient:

The algal assay results are not considered representative of conditions in the reservoir at the times the samples were collected (04/30/75 and 09/30/75) due to significant changes in nutrient concentrations in the samples during shipment from the field to the laboratory. The reservoir data indicate phosphorus limitation in April at stations 1, 3, and 5 and in August at stations 3 and 5. Nitrogen limitation is indicated at all other sampling stations and times.

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* See Appendix A.

C. Nutrient Controllability:

1. Point sources--During the sampling year, point sources accounted for 1.6% of the total phosphorus input to Navajo Reservoir. The wastewater treatment plants at Ignacio and Bayfield contributed 0.3% and 0.2% of the total, respectively. The municipal facility at Pagosa Springs was estimated to have contributed the remaining 1.1%.

The present phosphorus loading of 2.50 g/m^2/year is 2.6 times that proposed by Vollenweider (Vollenweider and Dillon, 1974) as a eutrophic loading (see page 14). A 62% reduction of phosphorus inputs would be necessary to lower the loading to less than a eutrophic loading. This would require control of phosphorus from non-point sources in the drainage basin in addition to point-source control.

2. Non-point sources--Non-point sources contributed 98.4% of the total phosphorus load during the sampling year. The San Juan River contributed 34.0%, the Piedra River contributed 36.1%, and six other gaged tributaries collectively contributed 7.9%. The ungaged minor tributaries and immediate drainage contributed an estimated 19.8%.

The phosphorus export rates of the San Juan River, Piedra River, Spring Creek, and Unnamed Creeks D-1 and F-1 were significantly higher than the rates of the other tributaries in the drainage basin (see page 13). In a previous report, it is

noted that part of the flow in Spring Creek is due to irrigation return flows, and that water is diverted from the San Juan, Piedra, and Los Pinos rivers for the irrigation of approximately 189 km^2 (Anonymous, 1975). It is likely that irrigation return flows contribute to the excessive phosphorus loading of Navajo Reservoir. An additional investigation is needed to determine the contribution and controllability of non-point-source nutrients.

II. RESERVOIR AND DRAINAGE BASIN CHARACTERISTICS†

A. Morphometry††:

1. Surface area: 63.25 kilometers^2.
2. Mean depth: 33.3 meters.
3. Maximum depth: 39.6 meters.
4. Volume: 2,108.034 x 10^6 m^3.
5. Mean hydraulic retention time: 1.4 years.

B. Tributary and Outlet:
(See Appendix C for flow data)

1. Tributaries -

Name	Drainage area (km^2)*	Mean flow (m^3/sec)*
San Juan River	3,185.7	17.440
Piedra River	1,629.1	14.720
Sambrito Creek	46.6	0.064
Unnamed Stream D-1	20.7	0.010
Los Pinos River	1,320.9	5.620
Unnamed Stream F-1	18.6	0.052
Unnamed Stream G-1	11.4	0.028
Unnamed Stream H-1	17.4	0.040
Unnamed Stream J-1	23.3	0.092
Spring Creek	150.2	0.336
Minor tributaries & immediate drainage -	1,956.3	11.058
Totals	8,380.2	49.460**

2. Outlet -

San Juan River	8,443.4***	49.460

C. Precipitation****:

1. Year of sampling: 54.0 centimeters.
2. Mean annual: 47.2 centimeters.

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† Table of metric conversions--Appendix B.
†† Anderson, 1974.
* For limits of accuracy, see Working Paper No. 175, "...Survey Methods, 1973-1976".
** Sum of inflows adjusted to equal outflow.
*** Includes area of reservoir.
**** See Working Paper No. 175.

III. WATER QUALITY SUMMARY

Navajo Reservoir was sampled three times during the open-water season of 1975 by means of a pontoon-equipped Huey helicopter. Each time, samples for physical and chemical parameters were collected from a number of depths at five stations on the reservoir in April and seven stations in August and September (see map, page v). During each visit, a single depth-integrated (4.6 m to surface) sample was composited from the stations for phytoplankton identification and enumeration; and during the first visit, a single 18.9-liter depth-integrated sample was composited for algal assays. Also each time, a depth-integrated sample was collected from each of the stations for chlorophyll a analysis. The maximum depths sampled were 64.0 meters at station 1, 22.9 meters at station 2, 64.0 meters at station 3, 53.3 meters at station 4, 67.1 meters at station 5, 10.7 meters at station 6, and 32.0 meters at station 7.

The sampling results are presented in full in Appendix D and are summarized in the following table.

A. SUMMARY OF PHYSICAL AND CHEMICAL CHARACTERISTICS FOR NAVAJO RESERVOIR
STORET CODE 0812

PARAMETER	1ST SAMPLING (4/30/75) 5 SITES RANGE	MEAN	MEDIAN	2ND SAMPLING (8/18/75) 7 SITES RANGE	MEAN	MEDIAN	3RD SAMPLING (9/30/75) 7 SITES RANGE	MEAN	MEDIAN
TEMP (C)	4.3 - 8.5	6.3	6.4	4.2 - 21.1	14.5	17.2	9.7 - 19.0	16.4	18.1
DISS OXY (MG/L)	8.0 - 9.4	9.1	9.2	3.8 - 7.4	6.2	6.4	4.8 - 8.6	6.6	6.7
CNDCTVY (MCROMO)	169. - 307.	209.	191.	96. - 227.	176.	186.	94. - 183.	158.	162.
PH (STAND UNITS)	7.7 - 8.2	8.1	8.1	7.4 - 8.6	7.9	7.9	7.6 - 8.1	7.9	7.9
TOT ALK (MG/L)	76. - 94.	89.	88.	49. - 93.	71.	70.	53. - 107.	76.	73.
TOT P (MG/L)	0.018 - 0.144	0.039	0.028	0.012 - 0.084	0.032	0.028	0.010 - 0.043	0.025	0.024
ORTHO P (MG/L)	0.007 - 0.020	0.011	0.010	0.002 - 0.040	0.011	0.010	0.003 - 0.025	0.012	0.010
NO2+NO3 (MG/L)	0.100 - 0.160	0.124	0.120	0.020 - 0.560	0.081	0.040	0.020 - 0.220	0.076	0.040
AMMONIA (MG/L)	0.020 - 0.064	0.029	0.030	0.020 - 0.030	0.020	0.020	0.020 - 0.030	0.020	0.020
KJEL N (MG/L)	0.200 - 0.500	0.291	0.300	0.200 - 0.500	0.249	0.200	0.200 - 0.400	0.250	0.200
INORG N (MG/L)	0.130 - 0.210	0.153	0.140	0.040 - 0.580	0.101	0.060	0.040 - 0.240	0.097	0.065
TOTAL N (MG/L)	0.310 - 0.660	0.415	0.410	0.220 - 0.760	0.330	0.280	0.220 - 0.580	0.326	0.305
CHLRPYL A (UG/L)	0.5 - 9.0	2.3	0.6	1.4 - 1.9	1.6	1.5	1.5 - 5.9	2.7	1.6
SECCHI (METERS)	0.2 - 0.9	0.5	0.4	0.2 - 4.6	2.6	2.4	0.3 - 3.0	1.4	1.5

B. Biological Characteristics:

1. Phytoplankton* -

Sampling Date	Dominant Genera	Algal Units per ml
08/18/77	1. Cryptomonas sp.	253
	2. Aphanizomenon sp.	63
	Total	316
09/30/75	1. Chroomonas (?) sp.	605
	2. Cryptomonas sp.	287
	Total	892

2. Chlorophyll a -

Sampling Date	Station Number	Chlorophyll a (µg/l)
04/30/75	1	0.6
	2	0.7
	3	0.5
	4	0.5
	5	9.0
	6	-
	7	-
08/18/75	1	1.5
	2	1.4
	3	1.9
	4	1.6
	5	1.7
	6	1.4
	7	1.5
09/30/75	1	1.6
	2	1.5
	3	2.2
	4	1.5
	5	1.5
	6	5.9
	7	4.7

* The April phytoplankton sample was lost in shipment.

C. Limiting Nutrient Study:

The algal assay results are not considered representative of conditions in the reservoir at the times the samples were collected (04/30/75 and 09/30/75) due to significant changes in nutrient concentrations in the samples during shipment from the field to the laboratory.

The reservoir data indicate a combination of limiting nutrients. Following is a tabulation of the mean inorganic nitrogen/orthophosphorus ratios at each of the sampling stations and times with the indicated limiting nutrient in parentheses.

Station	04/30/75	08/18/75	09/30/75
1	18/1 (P)	13/1 (N-?)	10/1 (N)
2	11/1 (N)	4/1 (N)	6/1 (N)
3	15/1 (P)	18/1 (P)	9/1 (N)
4	13/1 (N-?)	8/1 (N)	7/1 (N)
5	17/1 (P)	15/1 (P)	10/1 (N)
6	-	3/1 (N)	5/1 (N)
7	-	8/1 (N)	7/1 (N)

IV. NUTRIENT LOADINGS
(See Appendix E for data)

For the determination of nutrient loadings, the Colorado National Guard collected monthly near-surface grab samples from each of the tributary sites indicated on the map (page v), except for the months of May and July when two or three samples were collected. Sampling was begun in September, 1974, and was completed in August, 1975.

Through an interagency agreement, stream flow estimates for the year of sampling and a "normalized" or average year were provided by the Colorado District Office of the U.S. Geological Survey for the tributary sites nearest the reservoir.

In this report, nutrient loads for sampled tributaries were determined by using a modification of a U.S. Geological Survey computer program for calculating stream loadings*. Nutrient loads shown are those measured minus point-source loads, if any.

Nutrient loads for unsampled "minor tributaries and immediate drainage" ("ZZ" of U.S.G.S.) were estimated using the means of the nutrient loads, in $kg/km^2/year$, at stations D-1 and K-1 and multiplying the means by the ZZ area in km^2. No nutrient samples were collected on Unnamed Streams G-1 (Gomez Canyon) and J-1 (Burns Canyon), and nutrient loads for these tributaries are included in the estimate of minor tributary loadings.

The operators of the Bayfield and Ignacio wastewater treatment plants provided monthly effluent samples and corresponding flow data.

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* See Working Paper No. 175.

The operator of Pagosa Springs wastewater treatment plant did not participate; nutrient loads from this source were estimated at 1.134 kg P and 3.401 kg N/capita/year, and flows were estimated at 0.3785 m^3/capita/day.

A. Waste Sources:

1. Known municipal* -

Name	Pop. Served	Treatment	Mean Flow (m^3/d)	Receiving Water
Bayfield	390	stab. pond	488.3	Los Pinos River
Ignacio	350	stab. pond	450.6	Pine River
Pagosa Springs	1,500	stab. pond	567.8	San Juan River

2. Known industrial - None

* Treatment plant questionnaires; Anonymous, 1971.

B. Annual Total Phosphorus Loading - Average Year:

1. Inputs -

Source	kg P/ yr	% of total
a. Tributaries (non-point load) -		
San Juan River	53,690	34.0
Piedra River	57,015	36.1
Sambrito Creek	265	0.2
Unnamed Stream D-1	375	0.2
Los Pinos River	9,055	5.7
Unnamed Stream F-1	575	0.4
Unnamed Stream H-1	20	<0.1
Spring Creek	2,170	1.4
b. Minor tributaries & immediate drainage (non-point load) -	31,300	19.8
c. Known municipal STP's -		
Bayfield	330	0.2
Ignacio	480	0.3
Pagosa Springs	1,700	1.1
d. Septic tanks* -	10	<0.1
e. Known industrial - None	-	-
f. Direct precipitation** -	1,105	0.7
Total	158,090	100.0

2. Outputs -

Reservoir outlet - San Juan River	27,970

3. Net annual P accumulation - 130,120 kg.

* Estimate based on 34 shoreline dwellings; see Working Paper No. 175.
** See Working Paper No. 175.

C. Annual Total Nitrogen Loading - Average Year:

1. Inputs -

Source	kg N/ yr	% of total
a. Tributaries (non-point load) -		
San Juan River	645,120	36.3
Piedra River	478,760	26.9
Sambrito Creek	3,050	0.2
Unnamed Stream D-1	5,655	0.3
Los Pinos River	167,355	9.4
Unnamed Stream F-1	2,130	0.1
Unnamed Stream H-1	1,215	0.1
Spring Creek	17,355	1.0
b. Minor tributaries & immediate drainage (non-point load) -	380,500	21.4
c. Known municipal STP's -		
Bayfield	840	<0.1
Ignacio	1,265	0.1
Pagosa Springs	5,100	0.3
d. Septic tanks* -	360	<0.1
e. Known industrial - None	-	-
f. Direct precipitation** -	68,285	3.8
Total	1,776,990	100.0

2. Outputs -

Reservoir outlet - San Juan River 1,403,140

3. Net annual N accumulation - 373,850 kg.

* Estimate based on 34 shoreline dwellings; see Working Paper No. 175.
** See Working Paper No. 175.

D. Non-point Nutrient Export by Subdrainage Area:

Tributary	kg P/km^2/yr	kg N/km^2/yr
San Juan River	17	203
Piedra River	35	294
Sambrito Creek	6	65
Unnamed Stream D-1	18	273
Los Pinos River	7	127
Unnamed Stream F-1	31	115
Unnamed Stream H-1	1	70
Spring Creek	14	116

E. Yearly Loads:

In the following table, the existing phosphorus loadings are compared to those proposed by Vollenweider (Vollenweider and Dillon, 1974). Essentially, his "dangerous" loading is one at which the receiving water would become eutrophic or remain eutrophic; his "permissible" loading is that which would result in the receiving water remaining oligotrophic or becoming oligotrophic if morphometry permitted. A mesotrophic loading would be considered one between "dangerous" and "permissible".

Note that Vollenweider's model may not be applicable to water bodies with short hydraulic retention times.

	Total Phosphorus		Total Nitrogen	
	Total	Accumulated	Total	Accumulated
grams/m^2/yr	2.50	2.06	28.1	5.9

Vollenweider phosphorus loadings ($g/m^2/yr$) based on mean depth and mean hydraulic retention time of Navajo Reservoir:

"Dangerous" (eutrophic loading)	0.96
"Permissible" (oligotrophic loading)	0.48

V. LITERATURE REVIEWED

Anderson, R. Dennis, 1974. Personal communication (waterbody information and morphometry). CO Dept. of Health, Denver.

Anonymous, 1971. Inventory of municipal waste facilities. EPA Publ. OWP-1, vol. 8, Wash., DC.

Anonymous, 1975. Water resources data for Colorado. Part 1: Surface water records. U.S. Geol. Surv., Lakewood.

Vollenweider, R. A., and P. J. Dillon, 1974. The application of the phosphorus loading concept to eutrophication research. Natl. Res. Council of Canada Publ. No. 13690, Canada Centre for Inland Waters, Burlington, Ontario.

VI. APPENDICES

APPENDIX A

LAKE RANKINGS

LAKE DATA TO BE USED IN RANKINGS

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	560-MEAN SEC	MEAN CHLORA	15-MIN DO	MEDIAN DISS ORTHO P
0801	BARKER RESERVOIR	0.023	0.045	419.000	5.333	9.400	0.006
0802	BARR LAKE	0.930	1.090	451.333	28.767	10.200	0.730
0803	BLUE MESA RESERVOIR	0.019	0.040	395.750	6.817	13.800	0.005
0804	CHERRY CREEK LAKE	0.054	0.040	469.333	23.322	10.000	0.007
0805	CUCHARAS RESERVOIR	0.263	0.040	490.000	27.400	14.800	0.015
0806	DILLON RESERVOIR	0.009	0.040	181.750	3.150	9.200	0.002
0807	GRAND LAKE	0.013	0.040	366.500	4.900	10.200	0.003
0808	GREEN MOUNTAIN RESERVOIR	0.010	0.040	391.167	5.833	9.100	0.002
0809	HOLBROOK LAKE	0.329	0.070	490.333	111.933	9.000	0.028
0810	LAKE MEREDITH	0.397	0.110	489.667	164.678	10.400	0.098
0811	MILTON RESERVOIR	0.846	2.280	429.333	5.900	9.200	0.808
0812	NAVAJO RESERVOIR	0.036	0.050	479.400	2.180	10.000	0.013
0813	SHADOW MOUNTAIN LAKE	0.020	0.040	427.000	5.700	9.200	0.003

ENT OF LAKES WITH HIGHER VALUES (NUMBER OF LAKES WITH HIGHER VALUES)

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500-MEAN SEC	MEAN CHLORA	15-MIN DO	MEDIAN DISS ORTHO P	INDEX NO
0801	BARKER RESERVOIR	58 (7)	42 (5)	67 (8)	75 (9)	58 (7)	58 (7)	358
0802	BARR LAKE	0 (0)	8 (1)	42 (5)	17 (2)	29 (3)	8 (1)	104
0803	BLUE MESA RESERVOIR	75 (9)	87 (9)	75 (9)	42 (5)	8 (1)	67 (8)	354
0804	CHERRY CREEK LAKE	42 (5)	87 (9)	33 (4)	33 (4)	46 (5)	50 (6)	291
0805	CUCHARAS RESERVOIR	33 (4)	58 (6)	8 (1)	25 (3)	0 (0)	33 (4)	157
0806	DILLON RESERVOIR	100 (12)	58 (6)	100 (12)	92 (11)	75 (8)	96 (11)	521
0807	GRAND LAKE	83 (10)	87 (9)	92 (11)	83 (10)	29 (3)	79 (9)	453
0808	GREEN MOUNTAIN RESERVOIR	92 (11)	58 (6)	83 (10)	58 (7)	92 (11)	96 (11)	479
0809	HOLBROOK LAKE	25 (3)	25 (3)	0 (0)	8 (1)	100 (12)	25 (3)	183
0810	LAKE MEREDITH	17 (2)	17 (2)	17 (2)	0 (0)	17 (2)	17 (2)	85
0811	MILTON RESERVOIR	8 (1)	0 (0)	50 (6)	50 (6)	75 (8)	0 (0)	183
0812	NAVAJO RESERVOIR	50 (6)	33 (4)	25 (3)	100 (12)	46 (5)	42 (5)	296
0813	SHADOW MOUNTAIN LAKE	67 (8)	87 (9)	58 (7)	67 (8)	75 (8)	79 (9)	433

LAKES RANKED BY INDEX NOS.

RANK	LAKE CODE	LAKE NAME	INDEX NO
1	0806	DILLON RESERVOIR	521
2	0808	GREEN MOUNTAIN RESERVOIR	479
3	0807	GRAND LAKE	453
4	0813	SHADOW MOUNTAIN LAKE	433
5	0801	BARKER RESERVOIR	358
6	0803	BLUE MESA RESERVOIR	354
7	0812	NAVAJO RESERVOIR	296
8	0804	CHERRY CREEK LAKE	291
9	0811	MILTON RESERVOIR	183
10	0809	HOLBROOK LAKE	183
11	0805	CUCHARAS RESERVOIR	157
12	0802	BARR LAKE	104
13	0810	LAKE MEREDITH	85

APPENDIX B

CONVERSION FACTORS

CONVERSION FACTORS

Hectares x 2.471 = acres

Kilometers x 0.6214 = miles

Meters x 3.281 = feet

Cubic meters x 8.107×10^{-4} = acre/feet

Square kilometers x 0.3861 = square miles

Cubic meters/sec x 35.315 = cubic feet/sec

Centimeters x 0.3937 = inches

Kilograms x 2.205 = pounds

Kilograms/square kilometer x 5.711 = lbs/square mile

APPENDIX C

TRIBUTARY FLOW DATA

TRIBUTARY FLOW INFORMATION FOR COLORADO 09/24/76

LAKE CODE 0812 NAVAJO RESERVOIR

TOTAL DRAINAGE AREA OF LAKE(SQ KM) 8443.4

TRIBUTARY	SUB-DRAINAGE AREA(SQ KM)	NORMALIZED FLOWS(CMS) JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
0812A1	8443.4	9.57	19.34	51.59	123.97	188.48	78.75	35.85	23.42	16.74	18.15	15.15	10.82	49.46
0812A2	3185.7	2.04	6.74	19.26	48.99	76.17	23.79	9.40	6.88	4.11	4.64	4.45	2.12	17.44
0812B1	1629.1	3.23	5.44	14.44	47.01	54.65	24.64	7.82	4.76	3.11	3.37	4.22	3.68	14.72
0812C1	46.6	0.005	0.018	0.074	0.130	0.076	0.057	0.195	0.099	0.045	0.042	0.014	0.003	0.064
0812D1	20.7	0.000	0.002	0.013	0.016	0.005	0.003	0.042	0.024	0.005	0.008	0.001	0.0	0.010
0812E1	1320.9	1.95	2.35	4.53	7.76	11.44	11.07	7.93	5.58	5.30	4.16	2.75	2.41	5.62
0812F1	18.6	0.003	0.015	0.079	0.127	0.099	0.051	0.127	0.051	0.024	0.026	0.011	0.002	0.052
0812G1	11.4	0.002	0.008	0.040	0.071	0.045	0.024	0.082	0.031	0.013	0.016	0.006	0.001	0.028
0812H1	17.4	0.003	0.011	0.054	0.096	0.065	0.031	0.105	0.048	0.027	0.022	0.009	0.002	0.040
0812J1	23.3	0.013	0.028	0.144	0.272	0.201	0.113	0.150	0.071	0.042	0.040	0.021	0.008	0.092
0812K1	150.2	0.017	0.113	0.623	1.303	0.566	0.280	0.566	0.266	0.079	0.147	0.057	0.010	0.336
0812ZZ	2020.2	2.29	4.62	12.35	18.24	45.08	18.83	8.30	5.61	3.99	4.33	3.62	2.58	10.87

SUMMARY

TOTAL DRAINAGE AREA OF LAKE = 8443.4
SUM OF SUB-DRAINAGE AREAS = 8444.2
TOTAL FLOW IN = 589.42
TOTAL FLOW OUT = 591.82

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
0812A1	9	74	19.878	28	20.048				
	10	74	14.668	28	13.592				
	11	74	13.337	21	13.082				
	12	74	13.932	23	14.442				
	1	75	14.866	21	15.631				
	2	75	13.224	27	13.592				
	3	75	14.385	28	15.631				
	4	75	39.077						
	5	75	67.960	5	84.384	21	72.491		
	6	75	71.358	14	68.244				
	7	75	69.376	9	63.996	23	71.358	31	71.925
	8	75	53.519	28	45.307				
0812A2	9	74	2.124	28	2.832				
	10	74	4.757	28	7.532				
	11	74	4.955	21	3.455				
	12	74	2.690	23	2.747				
	1	75	12.997	23	18.491				
	2	75	17.018	27	3.398				
	3	75	12.912	28	10.279				
	4	75	40.408						
	5	75	50.970	5	57.200	21	73.624		
	6	75	70.792	11	108.454				
	7	75	39.927	7	51.253	23	23.616	31	21.096
	8	75	8.920	28	4.729				

TRIBUTARY FLOW INFORMATION FOR COLORADO 09/24/76

LAKE CODE 0812 NAVAJO RESERVOIR

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
0812B1	9	74	1.359	28	1.671				
	10	74	2.407	28	3.908				
	11	74	2.803	21	2.265				
	12	74	1.331	23	1.331				
	1	75	4.332	23	6.909				
	2	75	3.625	27	2.152				
	3	75	5.239	28	5.182				
	4	75	30.865						
	5	75	61.164	5	66.545	21	70.226		
	6	75	59.749	11	46.440				
	7	75	31.998	7	54.368	23	14.158	31	8.269
	8	75	4.446	28	2.832				
0812C1	9	74	0.037	28	0.045				
	10	74	0.031	28	0.051				
	11	74	0.009	21	0.008				
	12	74	0.001	23	0.001				
	1	75	0.007						
	2	75	0.012	27	0.037				
	3	75	0.027	28	0.026				
	4	75	0.085						
	5	75	0.085	5	0.093	21	0.096		
	6	75	0.139	11	0.108				
	7	75	0.793	7	1.359	23	0.340	31	0.204
	8	75	0.093	28	0.059				
0812D1	9	74	0.002	28	0.003				
	10	74	0.006	28	0.010				
	11	74	0.001	21	0.001				
	12	74	0.0						
	1	75	0.000						
	2	75	0.001	27	0.001				
	3	75	0.005	28	0.481				
	4	75	0.011						
	5	75	0.006	5	0.006	21	0.007		
	6	75	0.008	11	0.006				
	7	75	0.173	7	0.283	23	0.076	31	0.045
	8	75	0.023	28	0.014				
0812E1	9	74	3.710	28	3.908				
	10	74	3.483	28	7.646				
	11	74	2.209	21	1.926				
	12	74	1.444	23	1.529				
	1	75	5.069						
	2	75	4.332	27	3.341				
	3	75	10.166	28	15.546				
	4	75	19.709						
	5	75	20.756	5	32.281	21	20.048		
	6	75	42.475	11	26.193				
	7	75	28.543	7	42.192	23	19.114	31	8.014
	8	75	6.201	28	6.541				

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TRIBUTARY FLOW INFORMATION FOR COLORADO 09/24/76

LAKE CODE 0812 NAVAJO RESERVOIR

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
0812F1	9	74	0.010	28	0.0				
	10	74	0.019	28	0.031				
	11	74	0.007	21	0.0				
	12	74	0.001	23	0.0				
	1	75	0.004						
	2	75	0.010						
	3	75	0.028	28	0.028				
	4	75	0.085						
	5	75	0.110	5	0.119	21	0.127		
	6	75	0.125						
	7	75	0.510	7	0.0	31	0.0		
	8	75	0.005	26	0.0				
0812G1	9	74	0.006						
	10	74	0.011						
	11	74	0.004						
	12	74	0.000						
	1	75	0.002						
	2	75	0.005						
	3	75	0.014						
	4	75	0.045						
	5	75	0.051						
	6	75	0.059						
	7	75	0.340						
	8	75	0.028						
0812H1	9	74	0.012	28	0.0				
	10	74	0.016	28	0.026				
	11	74	0.006	21	0.0				
	12	74	0.001	23	0.0				
	1	75	0.004						
	2	75	0.007	27	0.0				
	3	75	0.020	28	0.019				
	4	75	0.062						
	5	75	0.074	5	0.079	21	0.085		
	6	75	0.076	11	0.059				
	7	75	0.425	7	0.708	23	0.187	31	0.110
	8	75	0.045	28	0.028				
0812J1	9	74	0.018						
	10	74	0.028						
	11	74	0.014						
	12	74	0.003						
	1	75	0.018						
	2	75	0.019						
	3	75	0.051						
	4	75	0.178						
	5	75	0.224						
	6	75	0.275						
	7	75	0.623						
	8	75	0.065						

TRIBUTARY FLOW INFORMATION FOR COLORADO 09/24/76

LAKE CODE 0812 NAVAJO RESERVOIR

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
0812X1	9	74	1.133	28	0.680				
	10	74	0.566	28	0.340				
	11	74	0.170	21	0.144				
	12	74	0.113	23	0.099				
	1	75	1.388						
	2	75	2.718	27	2.577				
	3	75	2.180	28	0.425				
	4	75	0.736						
	5	75	1.274	5	0.963	21	1.501		
	6	75	1.841	11	1.982				
	7	75	1.926	7	1.784	23	1.869	31	1.642
	8	75	1.954	28	2.180				
0812ZZ	9	74	1.756						
	10	74	3.087						
	11	74	2.407						
	12	74	0.934						
	1	75	3.087						
	2	75	3.087						
	3	75	4.474						
	4	75	11.978						
	5	75	50.404						
	6	75	45.590						
	7	75	33.980						
	8	75	5.239						

APPENDIX D

PHYSICAL and CHEMICAL DATA

STORET RETRIEVAL DATE 76/09/24

081201
36 47 59.0 107 36 18.0 3
NAVAJO RESERVOIR
35045 COLORADO

11EPALES 760114 2111202
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/04/30	10 50	0000	6.1	9.4	30	191	8.10	92	0.020	0.300	0.130	0.011
	10 50	0005	6.0	9.2		181	8.10	91	0.020K	0.300	0.120	0.009
	10 50	0015	5.8	9.2		182	8.10	91	0.020K	0.200	0.120	0.009
	10 50	0035	5.8	9.2		183	8.00	91	0.020K	0.200K	0.120	0.008
	10 50	0065	5.7	9.2		183	8.00	91	0.020K	0.200K	0.120	0.009
	10 50	0115	4.9	9.4		180	8.00	91	0.020K	0.200K	0.120	0.008
	10 50	0165	4.3	8.8		182	8.05	88	0.020K	0.300	0.130	0.009
75/08/18	17 15	0000	20.7	6.8	180	209	8.65	74	0.020K	0.200K	0.020K	0.003
	17 15	0005	20.8	6.6		207	8.50	72	0.020K	0.200K	0.020K	0.004
	17 15	0030	17.5	5.2		176	8.10	70	0.020K	0.200K	0.020	0.002
	17 15	0050	13.2	5.8		208	7.90	78	0.020K	0.200K	0.060	0.002K
	17 15	0071	10.7	6.6		205	7.90	79	0.020K	0.200	0.110	0.013
75/09/30	17 10	0000	18.4	7.0	120	164	8.15	70	0.020K	0.400	0.020K	0.005
	17 10	0005	18.4	6.4		166	8.10	69	0.020K	0.400	0.020K	0.004
	17 10	0018	18.4	6.8		161	8.05	70	0.020K	0.400	0.020K	0.003
	17 10	0045	18.1	5.4		157	7.90	70	0.020K	0.400	0.100	0.007
	17 10	0090	14.3	6.4		149	7.85	71	0.020K	0.400	0.120	0.017
	17 10	0140	12.4	7.2		169	7.80	81	0.020K	0.400	0.150	0.019
	17 10	0180	11.1	7.0		172	7.80	88	0.020K	0.400	0.160	0.021
	17 10	0210	9.7	6.8		180	7.80	91	0.020K	0.400	0.180	0.017

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

081201
36 47 59.0 107 36 18.0 3
NAVAJO RESERVOIR
35045 COLORADO

11EPALES 760114 2111202
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT
75/04/30	10	50 0000	0.027	0.6	
	10	50 0005	0.027		
	10	50 0015	0.027		
	10	50 0035	0.025		
	10	50 0065	0.025		
	10	50 0115	0.023		
	10	50 0165	0.024		
75/08/18	17	15 0000	0.022	1.5	
	17	15 0005	0.024		
	17	15 0030	0.020		
	17	15 0050	0.021		
	17	15 0071	0.019		
75/09/30	17	10 0000	0.013	1.6	
	17	10 0005	0.012		
	17	10 0018	0.010		
	17	10 0045	0.018		
	17	10 0090	0.028		
	17	10 0140	0.030		
	17	10 0180	0.028		
	17	10 0210	0.027		

STORET RETRIEVAL DATE 76/09/24

081202
37 00 07.0 107 24 44.0 3
NAVAJO RESERVOIR
08007 COLORADO

11EPALES 760114 2111202
0056 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/04/30	14 30	0000	8.5	9.0	10	209	8.15	89	0.050	0.500	0.120	0.014
	14 30	0005	8.3	8.0		202	8.20	87	0.040	0.400	0.120	0.014
	14 30	0015	7.6	9.2		196	8.10	87	0.040	0.400	0.120	0.014
	14 30	0035	7.6	9.2		195	8.10	86	0.040	0.400	0.120	0.016
	14 30	0052	7.4	8.2		208	8.10	84	0.040	0.400	0.130	0.017
75/08/18	12 50	0000	18.3	6.4	48	162	7.90	71	0.020K	0.500	0.020K	0.008
	12 50	0005	18.3	7.0		166	7.95	71	0.020K	0.400	0.020K	0.007
	12 50	0015	17.8	6.6		164	7.90	68	0.020K	0.400	0.020K	0.007
	12 50	0030	17.2	5.6		166	7.70	69	0.020K	0.400	0.030	0.013
	12 50	0050	12.6	5.0		123	7.60	63	0.020K	0.500	0.080	0.040
	12 50	0067	10.2	5.6		100	7.80	69	0.020K	0.500	0.020	0.006
75/09/30	16 00	0000	18.4	7.6	24	161	8.10	71	0.020K	0.200K	0.020K	0.009
	16 00	0005	18.4	6.8		158	8.10	69	0.020K	0.200	0.020K	0.005
	16 00	0015	17.9	7.0		153	8.10	69	0.020K	0.200	0.020K	0.005
	16 00	0045	17.8	6.2		156	7.95	61	0.020K	0.200K	0.090	0.018
	16 00	0075	15.4	5.2		105	7.80	53	0.020K	0.200K	0.110	0.023

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT
75/04/30	14 30	0000	0.064	0.7	
	14 30	0005	0.066		
	14 30	0015	0.064		
	14 30	0035	0.067		
	14 30	0052	0.057		
75/08/18	12 50	0000	0.020	1.4	
	12 50	0005	0.020		
	12 50	0015	0.019		
	12 50	0030	0.026		
	12 50	0050	0.043		
	12 50	0067	0.042		
75/09/30	16 00	0000	0.020	1.5	
	16 00	0005	0.022		
	16 00	0015	0.018		
	16 00	0045	0.039		
	16 00	0075	0.040		

K VALUE KNOWN TO BE
LESS THAN INDICATED

30

STORET RETRIEVAL DATE 76/09/24

081203
36 50 53.0 107 36 14.0 3
NAVAJO RESERVOIR
35045 COLORADO

11EPALES 760114 2111202
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/04/30	11 40	0000	7.2	9.0	9	175	8.10	87	0.030	0.300	0.150	0.015
	11 40	0005	6.5	9.0		169	8.15	89	0.030	0.200	0.150	0.012
	11 40	0015	6.3	8.8		172	8.15	88	0.020	0.200	0.140	0.010
	11 40	0035	5.5	9.2		180	8.10	92	0.020K	0.200	0.120	0.009
	11 40	0085	5.1	9.2		185	8.10	93	0.020K	0.200K	0.120	0.008
	11 40	0125	4.9	9.0		187	8.10	94	0.020	0.200K	0.120	0.009
	11 40	0165	4.7	9.4		185	8.10	93	0.020K	0.200K	0.120	0.009
75/08/15	15 45	0000	20.8		180	208	8.30	68	0.020K	0.200K	0.020K	0.003
	15 45	0005	20.6	7.0		205	8.35	68	0.020K	0.200K	0.020K	0.003
	15 45	0027	18.8	5.6		190	8.10	72	0.020K	0.200K	0.020K	0.003
	15 45	0060	11.6	6.0		175	7.90	69	0.020K	0.200K	0.070	0.010
	15 45	0100	8.4	6.8		191	7.75	80	0.020K	0.200K	0.130	0.015
	15 45	0150	6.4	7.0		208	7.65	90	0.020K	0.200K	0.560	0.014
	15 45	0180	5.7	7.2		205	7.65	91	0.020K	0.200K	0.160	0.013
75/09/30	14 25	0000	19.0	7.0	72	177	8.10	87	0.020K	0.200K	0.020K	0.003
	14 25	0005	18.8	7.0		173	8.10	87	0.020K	0.200K	0.020K	0.003
	14 25	0015	18.6	6.2		171	8.00	89	0.020K	0.200K	0.020K	0.006
	14 25	0040	18.3	5.6		168	7.80	82	0.020K	0.200K	0.060	0.016
	14 25	0080	14.9	6.0		153	7.80	87	0.020K	0.200K	0.120	0.019
	14 25	0120	13.2	6.4		171	7.80	92	0.020K	0.200K	0.140	0.018
	14 25	0160	12.2	6.4		179	7.70	99	0.020K	0.200K	0.180	0.017
	14 25	0210	9.7	4.8		183	7.60	107	0.020K	0.200K	0.220	0.018

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

081203
36 50 53.0 107 36 14.0 3
NAVAJO RESERVOIR
35045 COLORADO

11EPALES 760114 2111202
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCOT LT REMNING PERCENT
75/04/30	11	40 0000	0.056	0.5	
	11	40 0005	0.053		
	11	40 0015	0.042		
	11	40 0035	0.022		
	11	40 0085	0.019		
	11	40 0125	0.021		
	11	40 0165	0.021		
75/08/15	15	45 0000	0.018	1.9	
	15	45 0005	0.020		
	15	45 0027	0.028		
	15	45 0060	0.029		
	15	45 0100	0.035		
	15	45 0150	0.030		
	15	45 0180	0.034		
75/09/30	14	25 0000	0.016	2.2	
	14	25 0005	0.013		
	14	25 0015	0.016		
	14	25 0040	0.022		
	14	25 0080	0.024		
	14	25 0120	0.027		
	14	25 0160	0.026		
	14	25 0210	0.029		

STORET RETRIEVAL DATE 76/09/24

081204
36 54 47.0 107 26 48.0 3
NAVAJO RESERVOIR
35045 COLORADO

11EPALES 760114 2111202
0150 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/04/30	15	10 0000	7.1	9.2	14	289	8.20	87	0.030	0.400	0.110	0.010
	15	10 0005	7.1	9.0		286	8.20	89	0.030	0.300	0.100	0.010
	15	10 0015	6.9	9.0		280	8.20	88	0.030	0.300	0.110	0.009
	15	10 0030	6.6	9.2		280	8.20	88	0.030	0.200	0.110	0.010
	15	10 0065	6.5	9.4		307	8.20	88	0.030	0.200	0.110	0.010
	15	10 0115	6.6	9.2		297	8.20	86	0.040	0.400	0.130	0.015
	15	10 0145	6.5	9.4		270	8.20	76	0.050	0.500	0.160	0.020
75/08/18	13	20 0000	20.7	6.8	84	185	8.20	59	0.020K	0.200	0.020K	0.003
	13	20 0005	19.9	6.8		118	8.10	61	0.020K	0.200	0.020K	0.002
	13	20 0020	18.9	6.4		163	7.80	59	0.020K	0.200	0.020K	0.005
	13	20 0045	12.3	5.6		143	7.50	60	0.020K	0.200	0.080	0.012
	13	20 0080	9.3	6.6		96	7.45	49	0.020K	0.200K	0.080	0.019
	13	20 0110	7.3	6.6		123	7.50	63	0.020K	0.300	0.130	0.020
	13	20 0140	6.6	5.8		161	7.60	74	0.020K	0.300	0.170	0.022
	13	20 0175	5.5	5.4		212	7.60	88	0.020K	0.300	0.200	0.024
75/09/30	16	15 0000	18.3	8.4	36	158	8.00	70	0.020K	0.200	0.020K	0.005
	16	15 0005	18.3	6.8		155	8.00	71	0.020K	0.200	0.020K	0.004
	16	15 0015	18.2	6.8		154	8.00	70	0.020K	0.200	0.020K	0.004
	16	15 0050	18.0	6.2		152	7.80	54	0.020K	0.200K	0.100	0.023
	16	15 0090	14.0	5.8		94	7.75	61	0.020K	0.200	0.140	0.023
	16	15 0120	12.7	5.4		170	7.70	72	0.020K	0.200	0.170	0.024
	16	15 0155	11.9	5.0		141	7.70	74	0.020K	0.200	0.170	0.025

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

081204
36 54 47.0 107 26 48.0 3
NAVAJO RESERVOIR
35045 COLORADO

11EPALES 760114 2111202
0150 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT
75/04/30	15 10	0000	0.035	0.5	
	15 10	0005	0.030		
	15 10	0015	0.033		
	15 10	0030	0.037		
	15 10	0065	0.035		
	15 10	0115	0.065		
	15 10	0145	0.144		
75/08/18	13 20	0000	0.013	1.6	
	13 20	0005	0.012		
	13 20	0020	0.013		
	13 20	0045	0.018		
	13 20	0080	0.030		
	13 20	0110	0.041		
	13 20	0140	0.051		
	13 20	0175	0.084		
75/09/30	16 15	0000	0.020	1.5	
	16 15	0005	0.015		
	16 15	0015	0.015		
	16 15	0050	0.034		
	16 15	0090	0.040		
	16 15	0120	0.043		
	16 15	0155	0.041		

34

STORET RETRIEVAL DATE 76/09/24

081205
36 51 20.0 107 33 28.0 3
NAVAJO RESERVOIR
35039 COLORADO

11EPALES 760114 2111202
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/04/30	16 05	0000	6.7	9.2	34	193	8.20	89	0.020	0.400	0.140	0.008
	16 05	0005	6.7	9.2		192	8.20	90	0.020	0.400	0.110	0.007
	16 05	0015	6.4	9.0		189	8.20	89	0.020K	0.300	0.110	0.008
	16 05	0030	6.1	9.2		187	7.70	88	0.020K	0.300	0.110	0.007
	16 05	0065	6.1	9.0		189	7.80	86	0.064	0.200K	0.140	0.012
	16 05	0115	5.8	9.2		196	8.00	86	0.030	0.200K	0.140	0.012
	16 05	0165	5.3	9.0		196	8.10	88	0.030	0.200K	0.130	0.011
75/08/18	16 30	0000	20.6	6.8	132	207	8.00	67	0.020K	0.200K	0.020K	0.002
	16 30	0005	21.1	6.8		192	8.30	70	0.020K	0.200K	0.230	0.002K
	16 30	0025	19.7	5.2		180	8.00	66	0.020K	0.200K	0.060	0.002
	16 30	0050	13.0	5.8		151	7.90	63	0.020K	0.200K	0.090	0.005
	16 30	0090	9.2	6.6		118	7.75	54	0.020K	0.200K	0.100	0.019
	16 30	0140	6.9	6.6		181	7.70	77	0.020K	0.200K	0.160	0.019
	16 30	0190	5.3	6.6		201	7.70	87	0.020K	0.200K	0.180	0.017
	16 30	0220	4.2	7.4		210	7.70	93	0.020K	0.200K	0.190	0.017
75/09/30	16 45	0000	18.7	7.4	60	160	7.90	71	0.020K	0.200	0.020	0.005
	16 45	0005	18.7	6.6		160	7.95	74	0.020K	0.300	0.020	0.004
	16 45	0015	18.7	6.8		163	7.95	75	0.020K	0.300	0.210	0.004
	16 45	0045	17.9	5.6		152	7.80	73	0.020K	0.400	0.060	0.011
	16 45	0080	14.9	6.0		122	7.70	63	0.020K	0.300	0.100	0.020
	16 45	0116	13.2	6.6		108	7.70	63	0.020K	0.300	0.110	0.018

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

081205
36 51 20.0 107 33 28.0 3
NAVAJO RESERVOIR
35039 COLORADO

11EPALES 760114 2111202
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT
75/04/30	16	05 0000	0.025	9.0	
	16	05 0005	0.025		
	16	05 0015	0.018		
	16	05 0030	0.019		
	16	05 0065	0.021		
	16	05 0115	0.034		
	16	05 0165	0.028		
75/08/18	16	30 0000	0.025	1.7	
	16	30 0005	0.025		
	16	30 0025	0.022		
	16	30 0050	0.027		
	16	30 0090	0.045		
	16	30 0140	0.039		
	16	30 0190	0.040		
	16	30 0220	0.038		
75/09/30	16	45 0000	0.020	1.5	
	16	45 0005	0.013		
	16	45 0015	0.015		
	16	45 0045	0.021		
	16	45 0080	0.028		
	16	45 0116	0.043		

STORET RETRIEVAL DATE 76/09/24

081206
37 01 28.0 107 22 10.0 3
NAVAJO RESERVOIR
08007 COLORADO

11EPALES 760114 2111202
0036 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/08/18	12 20	0000	18.6	6.2	9	197	7.95	58	0.020K	0.200	0.030	0.014
	12 20	0005	18.2	6.4		186	7.90	75	0.020K	0.200K	0.030	0.021
	12 20	0015	17.7	5.4		189	7.90	76	0.020	0.200	0.030	0.017
	12 20	0032	16.4	5.2		227	7.90	84	0.020K	0.500	0.040	0.013
75/09/30	15 30	0000	18.5	8.2	12	166	8.10	75	0.020K	0.200	0.020	0.013
	15 30	0005	18.5	7.6		165	8.10	70	0.020	0.200	0.020K	0.010
	15 30	0015	18.1	7.0		162	8.10	71	0.030	0.200	0.020K	0.008
	15 30	0035	17.8	7.2		171	8.10	76	0.030	0.200K	0.020K	0.010

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT
75/08/18	12 20	0000	0.040	1.4	
	12 20	0005	0.030		
	12 20	0015	0.041		
	12 20	0032	0.070		
75/09/30	15 30	0000	0.031	5.9	
	15 30	0005	0.032		
	15 30	0015	0.027		
	15 30	0035	0.033		

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

081207
36 55 57.0 107 36 09.0 3
NAVAJO RESERVOIR
35045 COLORADO

11EPALES 760114 2111202
0070 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/08/15	16 15	0000	19.5	6.4	96	206	7.80	75	0.020K	0.200	0.020K	0.003
	16 15	0005	19.7	6.4		202	7.90	75	0.020K	0.200	0.020K	0.004
	16 15	0020	18.9	6.4		199	8.10	76	0.020K	0.200K	0.020K	0.005
	16 15	0045	12.4	3.8		142	8.10	70	0.030	0.200K	0.060	0.018
	16 15	0065	10.4	4.2		123	8.00	61	0.020K	0.200K	0.090	0.015
75/09/30	15 00	0000	19.0	8.6	60	168	8.10	87	0.020K	0.200K	0.020K	0.005
	15 00	0005	18.8	7.0		177	8.10	81	0.020K	0.200	0.020K	0.007
	15 00	0015	18.5	6.8		175	8.10	83	0.020K	0.200K	0.020K	0.005
	15 00	0040	18.4	6.6		173	8.05	87	0.020K	0.200K	0.020K	0.007
	15 00	0070	15.4	5.4		125	7.85	68	0.020K	0.200K	0.090	0.017
	15 00	0105	13.6	6.0		158	8.00	80	0.020K	0.200	0.130	0.020

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT
75/08/15	16 15	0000	0.032	1.5	
	16 15	0005	0.028		
	16 15	0020	0.026		
	16 15	0045	0.053		
	16 15	0065	0.056		
75/09/30	15 00	0000	0.022	4.7	
	15 00	0005	0.024		
	15 00	0015	0.016		
	15 00	0040	0.018		
	15 00	0070	0.028		
	15 00	0105	0.024		

K VALUE KNOWN TO BE
LESS THAN INDICATED

APPENDIX E

TRIBUTARY AND WASTEWATER TREATMENT PLANT DATA

STORET RETRIEVAL DATE 76/09/24

08124A1
36 40 50.0 107 40 22.0 4
SAN JUAN
08 15 NAVAJO DAM
O/NAVAJO RESERVOIR 110291
ST RT 173 BRDG 6 MI W OF NAVAJO DAM
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/09/23	10	40	0.112	1.100	0.020	0.005	0.010
74/11/21	10	30	0.100	0.900	0.030	0.015	0.015
74/12/23	14	55	0.104	0.400	0.015	0.010	0.020
75/01/21	11	00	0.114	0.600	0.024	0.010	0.020
75/02/27	10	00	0.032	0.400	0.024	0.008K	0.010K
75/03/28	09	00	0.040	0.400	0.010	0.005K	0.020
75/05/05	11	25	0.035	1.200	0.025	0.005K	0.020
75/05/21	10	15	0.075	0.950	0.020	0.005	0.030
75/06/14	11	05	0.040	1.500	0.025	0.005	0.020
75/07/09	09	20	0.075	0.300	0.025	0.005	0.017
75/07/23	10	00	0.115	0.300	0.015	0.015	0.020
75/07/31	09	30	0.135	6.500	0.090	0.025	0.030
75/08/28	10	30	0.085	1.350	0.015	0.010	0.010

K VALUE KNOWN TO BE
LESS THAN INDICATED

40

STORET RETRIEVAL DATE 76/09/24

031242
37 01 10.0 107 15 20.0 4
SAN JUAN
08 15 PAGOSA JCT
T/NAVAJO RESERVOIR 110291
SEC RD BRDG 16.5 MI E OF ARBOLES
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/09/28	14 20		0.016	0.250	0.010	0.005	0.027
74/11/21	14 00		0.005K	1.000	0.020	0.015	0.030
74/12/23	11 30		0.016	0.600	0.032	0.016	0.040
75/01/23	13 00		0.064	0.800	0.040	0.024	0.040
75/02/27	15 00		0.080	0.600	0.048	0.032	0.100
75/03/28	13 00		0.280	1.050	0.027	0.035	0.360
75/05/05	13 20		0.100	1.000	0.020	0.030	0.130
75/05/21	13 20		0.070	1.600	0.035	0.025	0.190
75/06/11	14 40		0.055	2.400	0.045	0.020	0.147
75/07/07	13 15		0.010	0.250	0.075	0.052	0.052
75/07/23	14 10		0.010	0.650	0.025	0.020	0.090
75/07/31	14 00		0.015	1.250	0.165	0.030	0.090
75/08/28	13 30		0.010	2.600	0.015	0.005	0.030

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

081261
37 04 35.0 107 24 15.0 4
PIEDRA RIVER
08 7.5 ALLISON
T/NAVAJO RESERVOIR 110291
SEC RD BRDG 3.5 MI N OF ARBOLES
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/09/28	13 50		0.008	1.000	0.015	0.005K	0.005K
74/11/21	13 30		0.032	0.700	0.020	0.005K	0.010K
74/12/23	12 40		0.008	0.600	0.016	0.008K	0.020
75/01/23	11 00		0.112	1.300	0.040	0.008	0.010K
75/02/27	14 00		0.072	1.100	0.024	0.008	0.130
75/03/28	12 45		0.140	0.800	0.020	0.015	0.160
75/05/05	12 50		0.540	0.500	0.345	0.005	0.150
75/05/21	12 30		0.065	1.300	0.100	0.015	0.200
75/06/11	14 00		0.035	0.925	0.025	0.020	0.130
75/07/07	12 35		0.015	0.750	0.075	0.015	0.080
75/07/23	13 45		0.015	0.500	0.020	0.015	0.030
75/07/31	13 50		0.010	0.700	0.025	0.025	0.050
75/08/28	12 30		0.005	1.400	0.015	0.005K	0.010K

K VALUE KNOWN TO BE
LESS THAN INDICATED

42

STORET RETRIEVAL DATE 76/09/24

09812C1
37 00 38.0 107 27 23.0 4
SAMBRITO CREEK
08 7.5 ALLISON
T/NAVAJO RESERVOIR 110291
CLVRT 1 MI S AND .6 MI E OF RT 151 JCT
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/09/28	13 30		0.052	1.600	0.120	0.010	0.050
74/11/21	13 00		0.304	0.400	0.010	0.005K	0.010K
74/12/23	13 30		0.500	0.700	0.024	0.016	0.020
75/02/27	13 00		0.368	1.300	0.056	0.032	0.120
75/03/28	12 00		0.480	0.950	0.015	0.015	0.260
75/05/05	12 30		0.160	1.700	0.040	0.065	0.310
75/05/21	12 10		0.100	1.130	0.030	0.030	0.170
75/06/11	13 45		0.005	2.600	0.050	0.025	0.080
75/07/07	12 10		0.060	0.850	0.075	0.050	0.140
75/07/23	12 25		0.060	0.850	0.035	0.045	0.110
75/07/31	13 12		0.070	1.950	0.030	0.055	0.130
75/08/28	12 04		0.015	1.650	0.040	0.025	0.050

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

081201
37 00 37.0 107 28 52.0 4
UNNAMED STREAM
08 7.5 ALLISON
T/NAVAJO RESERVOIR 110291
SEC RD BRDG 1.6 MI S OF ALLSION
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/09/28	13 00		0.016	0.900	0.065	0.010	0.030
74/11/21	12 30		0.080	0.700	0.025	0.005K	0.010K
75/02/27	12 00		0.272	2.300	0.248	0.032	0.270
75/03/28	11 00		0.050	0.650	0.010	0.005	0.050
75/05/05	12 20		0.030	1.300	0.035	0.010	0.050K
75/05/21	12 00		0.120	2.400	0.040	0.160	0.480
75/06/11	13 30		0.030	3.400	0.055		
75/07/07	12 00		0.025	1.100	0.095	0.040	0.160
75/07/23	12 47		0.020	1.350	0.040	0.035	0.245
75/07/31	12 30		0.020	1.700	0.095	0.055	0.230
75/08/28	12 10		0.005	0.900	0.015	0.025	0.065

K VALUE KNOWN TO BE
LESS THAN INDICATED

444

STORET RETRIEVAL DATE 76/09/24

0812E1
37 00 35.0 107 35 57.0 4
LOS PINOS RIVER
08 15 TIFFANY
T/NAVAJO RESERVOIR 110291
BNK AT GAGE STN .5 M SE OF ST RT 172 JCT
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/09/28	12 00		0.012	1.100	0.015	0.015	0.050
74/11/21	11 30		0.040	1.200	0.020	0.005	0.010K
74/12/23	14 15		0.018	0.400	0.032	0.008K	0.020
75/02/27	11 30		0.144	1.100	0.064	0.024	0.060
75/03/28	10 15		0.200	1.000	0.025	0.020	0.110
75/05/05	10 12		0.125	1.150	0.020	0.010	0.110
75/05/21	11 00		0.085	0.900	0.020		0.160
75/06/11	11 50		0.025	1.800	0.030	0.020	0.090
75/07/07	11 45		0.010	0.500	0.045	0.010	0.060
75/07/23	11 00		0.005	0.450	0.015	0.015	0.040
75/07/31	10 45		0.010	0.650	0.020	0.025	0.040
75/08/28	11 15		0.005	0.750	0.010	0.025	0.090

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

0812F1
37 03 00.0 107 11 55.0 4
UNNAMED STREAM
08 15 PAGOSA JCT
T/NAVAJO RESERVOIR 1102#1
SEC RD XING 1.5 MI N OF PAGOSA JUNCTION
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
75/03/28	13 30		0.075	1.150	0.010	0.015	0.380
75/05/05	14 00		0.005	2.300	0.035	0.005	0.010
75/05/21	14 05		0.020	0.450	0.010	0.005K	0.030

K VALUE KNOWN TO BE
LESS THAN INDICATED

44

STORET RETRIEVAL DATE 76/09/24

08124H1
37 03 10.0 107 08 00.0 4
UNNAMED STREAM
08 15 PAGOSA JCT
T/NAVAJO RESERVOIR 110291
SEC RD XING 2 MI N OF JUANITA
11EPALES 211120
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
75/03/28	14 00		0.230	1.450	0.020		0.010
75/05/05	13 45		0.005	0.800	0.015	0.005K	0.010K
75/05/21	13 50		0.015	0.575	0.015	0.005K	0.015
75/06/11	15 30		0.002	1.200	0.025	0.010	
75/07/07	14 00		0.005	0.150	0.020	0.005K	0.010K
75/07/23	14 15		0.005	1.000	0.010	0.005K	0.040
75/07/31	14 20		0.005	0.850	0.010	0.010	0.010
75/08/28	14 20		0.005	0.350	0.005K	0.005K	0.010K

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

08125
37 00 40.0 107 35 45.0 4
SPRING CREEK
OR 15 TIFFANY
T/NAVAJO RESERVOIR 110291
BNK AT GAGE .4 MI E OF LA BOCA ON SEC RD
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/09/28	12	17	0.024	0.900	0.015	0.020	0.090
74/11/21	11	45	0.032	0.900	0.015	0.005	0.020
74/12/23	14	00	0.168	0.700	0.024	0.008K	0.020
75/02/27	11	00	0.312	1.600	0.216	0.040	0.160
75/03/28	10	00	0.220	2.300	0.035	0.035	0.440
75/05/05	10	25	0.005	2.200	0.015	0.005K	0.020
75/05/21	11	10	0.125	2.300	0.080	0.050	0.840
75/06/11	12	00	0.065	4.500	0.050	0.060	0.670
75/07/07	11	00	0.105	1.300	0.050	0.060	0.480
75/07/23	11	15	0.030	1.180	0.015	0.050	0.410
75/07/31	11	00	0.030	2.100	0.020	0.060	0.480
75/08/28	11	25	0.010	1.450	0.015	0.045	0.260

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

0812EA PD0812EA P001000
37 06 45.0 107 37 45.0 4
IGNACIO
08067 7.5 CARRACAS
T/NAVAJO RES.
LOS PINOS RIVER
11EPALES 2141204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
74/12/23	10 00		0.080	10.000	0.100	2.700	3.200	0.080	0.080
75/01/20	10 00		0.080	14.000	0.080K		4.500		0.084
75/02/19	11 00		0.080	9.700	3.200	2.700	3.500		0.086
75/03/13			0.080	1.000K	0.390	2.300	2.300	0.080	0.080
75/04/16			0.200	5.700	0.195	1.450	1.900	0.129	0.129
75/05/08	11 00		0.050	5.600	0.075	1.300	2.300		0.129
75/05/21	15 00		0.050	3.200	0.370	2.300	2.500		0.130
75/05/28	11 00		0.050	3.400	0.050K	1.900	2.200		0.130
75/06/10	14 00		0.050	6.800	0.050	2.600	4.300		0.130
75/06/23	10 00		0.050	4.800	0.175	2.000	2.000		0.130
75/07/10	13 00		0.050	7.500	0.050	2.800	3.600		0.130
75/07/30	08 00		0.050	17.500	0.025K	2.400	4.300		0.130
75/08/20	08 00		0.050	7.400	0.025K	2.400	3.000		0.135
75/09/10	08 00		0.050	6.600	0.100K	2.600	3.000		0.130
75/09/30	08 00		0.025	6.900	0.025K	1.700	2.100		0.130
75/10/22	07 00		0.025	11.000	0.140	2.100	2.600		0.130
75/10/29	08 00		0.100	9.900	0.460	2.400	2.800	0.130	

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/09/24

0812EB PD0812EB P000390
37 13 30.0 107 36 00.0 4
BAYFIELD
08 7.5 CHIMNEY ROCK
T/NAVAJO RES. 110291
LOS PINOS RIVER
11EPALES 2141204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
75/04/21	08 30		0.350	5.000	0.150	1.450	2.100	0.050	0.050
75/06/05	08 20		0.300	1.700	0.300	1.650	2.100	0.113	0.113
75/07/02	09 00		0.050	3.300	0.035	0.860	0.860	0.011	0.011
75/08/07	15 00		0.050	5.100	0.067	0.810	0.810	0.200	0.200
75/09/23	13 30		0.125	4.300	0.220	0.790	2.900	0.200	0.200
75/10/29	08 45		0.050	6.000	0.025	1.350	1.700	0.200	0.200